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Yoshinori Suzuki

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EXAMINER

ROBERTS, JESSICA M

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2621

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/506,428	Applicant(s) SUZUKI, YOSHINORI	
	Examiner JESSICA ROBERTS	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04/06/2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/03/2009; 04/29/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgement of Amendments

Applicant's Amendment filed on 04/06/2009 overcomes the following objection(s)/rejection(s):

The rejection of claims 25-26 for failing to comply with the written description requirement has been withdrawn in view of Applicants amendment.

The rejection of claims 23-25 under 35 U.S.C. 112 has been withdrawn in view of Applicants amendments.

The rejection of claims 23-26 under 35 U.S.C. 101 has been withdrawn in view of Applicants amendments.

The Provisional Double Patenting rejection has been withdrawn in view of Applicants amendments.

Response to Arguments

1. Applicant's arguments with respect to claims 23-26 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA (Applicants Admitted Prior Art) in view of Rodriguez, et al., US-6,195,389 in view of Fukuhara et al., US-5,926,225 and further in view of Well Known Prior Art (Official Notice).

5. Regarding **claim 23**, AAPA teaches A moving picture decoding method, carried out by a computing system, which generates a predicted image using motion vector information and reference frame(s) information, the moving picture decoding method having a prediction mode, in which prediction mode motion vector information of a current block in a current frame is not transmitted from an encoding side, comprising: in said prediction mode () : selecting, from among multiple candidate reference frame(s) to be referenced to in the prediction mode (AAPA teaches the above describes that one reference frame is used for motion compensation for a P-picture, and two reference frames, that is a past frame (forward reference frame) and a future reference frame (backward reference frame) are used for motion compensation for a B-picture. There is also a such a method to prepare multiple past frames so that a different reference frame can be selected on a macroblock basis or for each of smaller blocks in to which each

macroblock is divided,[0010]); and determining motion vector information to be used for the current block in the prediction mode, based on whether adjacent blocks adjacent to the current, have a motion vector, wherein both the adjacent blocks and the current block belong to the current frame and the adjacent blocks are decoded earlier than the current block; and performing moving picture decoding by generating said predicted image using the reference frame(s) information on said selected reference frames(s) and the motion vector information in said prediction mode.

6. Although, Rodriguez teaches determining motion vector information to be used for the current block in the prediction mode, based on whether adjacent blocks adjacent to the current, have a motion vector (Rodriguez teaches where the encoder engine keeps a record of which adjacent block provided the motion vector for the predictor for each block in current picture 201 whose motion vector has been determined and uses this information to determine which three of the four adjacent blocks (northwest, north, northeast, west) should be used to contribute their motion vectors as predictor for the current block. The northwest block also serves as a replacement when one of the other blocks 205, 207, or 209 does not exist, in the picture (that is towards the right-most part of the picture) or when a motion vector does not exist for one (or more) of the other three adjacent blocks because of unsatisfactory motion estimation performance (i.e., the best matching error found was not acceptable), column 14 line 18-35 and fig. 3) , wherein both the adjacent blocks (fig. 3 element 301, 207, 209, and 205) and the current block belong (fig. 3 element 203) to the current frame (fig. 3 element 201), it is noted that Rodriguez et al differs from the present invention in that it fails to particularly

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disclose a decoder as specified in claims 23-25. However, one of ordinary skill in the art would have had no difficulty in recognizing that the entire process of decompressing and decoding any compressed and coded is merely the reverse procedure of the encoding process, as clearly disclosed by Rodriguez et al. Furthermore, it should be self evident to one skilled in the art from the teaching of Rodriguez et al that the motion estimation on the encoder side is in an art recognized equivalent process to motion estimation on the decoder side and is designed to be used along with a similar but in reverse sequence decoder.

7. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention, having the reference of Rodriguez et al before him/her, to flexibly apply the reverse processing steps of the motion estimation of Rodriguez et al in a similarly designed decoder in order to be able accurately decode any video signal that was compression encoded using the same motion estimation technique.

8. AAPA (modified by Rodriguez) is silent in regards to the adjacent blocks are decoded earlier than the current block; and performing moving picture decoding by generating said predicted image using the reference frame(s) on said selected reference frame(s) and the motion vector information in said prediction mode.

9. However, Fukuhara teaches performing moving picture decoding by generating said predicted image using the reference frame(s) on said selected reference frames(s) and the motion vector information in said prediction mode (fig. 18).

10. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Fukuhara with AAPA (modified by Rodriguez) for providing high quality decode images, column 2 line 49-51.

11. AAPA (modified by Rodriguez and Fukuhara) is silent in regards to the adjacent blocks are decoded earlier than the current block.

12. However, Official Notice is taken that both the advantage and concept of providing the limitations as claimed are notoriously well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate with AAPA (modified by Rodriguez and Fukuhara) for providing improved image processing.

13. As to **claim 24**, which is substantially the same as claim 23, thus the rejection and analysis made in claim 23 also applies here.

14. Claims 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Snook et al., US-6, 654,420 in view of Fukuhara et al., US-5,926,225 and further in view of Zaccarin et al., US-5,210,605.

15. As to **claim 25**, which is substantially the same as claim 23, in addition to decoding of the motion-vector-less block of the motion-vector-less prediction mode; predetermined adjacent blocks. However, as understood by the examiner, a motion-vector-less prediction mode is a prediction mode without motion vector decoding. Therefore, the rejection and analysis made in claim 23 applies here for common subject matter. AAPA is silent in regards wherein both the adjacent blocks and the motion-

vector-less block belong to a same frame and the predetermined adjacent blocks are decoded earlier than the motion-vector-less block.

16. However, Official Notice is taken that both the concept and advantage for providing the limitations as claimed are notoriously well known and expected in the art, and would have been obvious to one of ordinary skill in the art to incorporate in AAPA (modified by Rodriguez and Fukuhara) for providing improved image processing.

17. As to **claim 26**, AAPA (modified by Rodriguez, Fukuhara and Well Known Prior Art (Official Notice)) as a whole teaches everything as claimed above, see claim 25. Snook is silent in regards to a moving picture decoding method as claimed in claim 25, wherein the motion vector information is a motion vector selected from at least one motion vector of the predetermined adjacent blocks of the same frame.

18. However, Rodriguez teaches wherein the motion vector information is a motion vector derived from at least one motion vector of the predetermined adjacent blocks of the same frame (Rodriguez teaches where the encoder engine keeps a record of which adjacent block provided the motion vector for the predictor for each block in a current picture 201 whose motion vector has been determined and uses this information to determine which three of the four adjacent blocks (northwest, north, northeast, west) should be used to contribute their motion vectors as predictors for the current block, column 14 line 17-35 and fig. 3).

19. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Rodriguez (modified by Fukuhara and Well Known Prior Art) with AAPA for providing improved image quality.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSICA ROBERTS whose telephone number is (571)270-1821. The examiner can normally be reached on 7:30-5:00 EST Monday-Friday, Alt Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marsha D. Banks-Harold can be reached on (571) 272-7905. The fax

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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Marsha D. Banks-Harold/
Supervisory Patent Examiner, Art Unit 2621

/Jessica Roberts/
Examiner, Art Unit 2621